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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,323	10/07/2005	Fumiko Koyama	590157-2032	2734
7590		04/29/2008		
Matthew K Ryan Frommer Lawrence & Haug 745 Fifth Avenue New York, NY 10151			EXAMINER	
			YAN, REN LUO	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,323	Applicant(s) KOYAMA ET AL.
	Examiner Ren L. Yan	Art Unit 2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 October 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 5-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 5-11 is/are rejected.
- 7) Claim(s) 5-11 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1448)
 Paper No(s)/Mail Date 11-29-2005
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Claims 5-11 are objected because the recitation of “a printing density reducing means which reduces both the printing densities for printing the input image data of the front side and the input image data of the back side when at least one of the image densities of the input image data of the front side and the input image data of the back side is not smaller than a predetermined value” in claim 5 does not appear to be properly supported by the disclosure as originally filed. The specification describes on page 9, first paragraph and Fig. 3 that when the image density A calculated as being greater than a predetermined value, printing density will be reduced. However, claim 5 seems to recite that when the image density of the input image data is equal to (not smaller than) a predetermined value, printing density will be reduced.

Appropriate correction is required.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-59630(hereafter ‘630) in view of JP 111-205596(hereafter ‘596).

The ‘630 patent teaches the structure of a double-side printing system where printing is made on both sides of a printing paper comprising means provided to obtain image information showing the relationship between an image on a front side and an image on a rear side based on respective image data of the front side and the rear side to control the recording density on the front side or the rear side so as to prevent print through in the double side printing. Figs. 1-9 of

'630 shows that the image density can be reduced or thinned out to reduce the printing density. However, the '630 patent does not teach to use an image density detecting means which detects the image densities of input image data of the front side and input image data of the back side, and a printing density reducing means which reduces both the printing densities for printing the input image data of the front side and the input image data of the back side when at least one of the image densities of the input image data of the front side and the input image data of the back side is not smaller than a predetermined value.

The '596 patent teaches in an image forming apparatus the conventionality of using an image density detecting means which detects the image densities of input image data and compare the image density with a threshold value in order to derive the printing density for the purpose of maintaining constant printing contrast. '596 patent also teaches the image data comprises pieces of black data and pieces of white data, and the image density detecting means detects as the image density the proportion of the number of pieces of black data to the total number of the pieces of image data in a predetermined area of the image represented by the image data.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the double-side printing system of the '630 patent with the image density detecting means and associated calculation and control means appropriately disposed as taught by the '596 patent in order to accurately obtain the image density information from the image data so as to better control the print densities of the front and rear sides to prevent print through during the double-side printing operation.

With respect to claims 7 and 10, the combination of the '630 patent and the '596 patent

teaches the image density detecting means divides the image represented by the image data into a plurality of areas(plural blocks) to detect the image densities for each of the areas, and the printing density reducing means reduces said printing densities when at least one of the image density detected in the areas is not smaller than a predetermined value.

With respect to claims 8, 9 and 11, the combination of the '630 patent and the '596 patent teaches all that is claimed but is silent about when pieces of image data of at least three pages are input as a set, the image densities of pieces of image data of all the pages input as a set, and the printing density reducing means reduces the printing density for printing the input image data of all the pages. However, the applied prior art does teach to divide the image data into plural blocks so that the printing density of the number of blocks belonging to a set is calculated. See the abstract of the '596 patent. It would have been obvious to those having ordinary skill in the art at the time of the invention to provide the double-side printing system of the '630 patent, as modified by the '596 patent with image data for three pages, each page being a block, so that the printing density reducing means of the applied prior art can process the set of blocks together to obtain the expected result of reducing the printing density of all pages together to improve efficiency.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ren L. Yan whose telephone number is 571-272-2173. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ren L Yan/
Primary Examiner, Art Unit 2854
April 21, 2008